



Product designation

Power contactor

Product type designation

BF09

**Contact characteristics**

|                                                           |                    |           |
|-----------------------------------------------------------|--------------------|-----------|
| Number of poles                                           | Nr.                | 4         |
| Rated insulation voltage U <sub>i</sub> IEC/EN            | V                  | 690       |
| Rated impulse withstand voltage U <sub>imp</sub>          | kV                 | 6         |
| Operational frequency                                     | min                | Hz 25     |
|                                                           | max                | Hz 400    |
| IEC Conventional free air thermal current I <sub>th</sub> | A                  | 25        |
| Operational current I <sub>e</sub>                        | AC-1 (≤40°C)       | A 25      |
|                                                           | AC-1 (≤55°C)       | A 20      |
|                                                           | AC-1 (≤70°C)       | A 18      |
|                                                           | AC-3 (≤440V ≤55°C) | A 9       |
|                                                           | AC-4 (400V)        | A 4.9     |
| Rated operational power AC-1 (T≤40°C)                     | 230V               | kW 9.5    |
|                                                           | 400V               | kW 16     |
|                                                           | 500V               | kW 21     |
|                                                           | 690V               | kW 27     |
| Short-time allowable current for 10s (IEC/EN60947-1)      | A                  | 150       |
| Protection fuse                                           | gG (IEC)           | A 25      |
|                                                           | aM (IEC)           | A 10      |
| Making capacity (RMS value)                               | A                  | 90        |
| Breaking capacity at voltage                              | 440V               | A 72      |
|                                                           | 500V               | A 72      |
|                                                           | 690V               | A 71      |
| Resistance per pole (average value)                       | mΩ                 | 2.5       |
| Power dissipation per pole (average value)                | I <sub>th</sub>    | W 1.6     |
|                                                           | AC3                | W 0.2     |
| Tightening torque for terminals                           | min                | Nm 1.5    |
|                                                           | max                | Nm 1.8    |
|                                                           | min                | lbin 1.1  |
|                                                           | max                | lbin 1.5  |
| Tightening torque for coil terminal                       | min                | Nm 0.8    |
|                                                           | max                | Nm 1      |
|                                                           | min                | lbin 0.8  |
|                                                           | max                | lbin 0.74 |
| Max number of wires simultaneously connectable            | Nr.                | 2         |

|                                                     |  |                  |                            |                       |
|-----------------------------------------------------|--|------------------|----------------------------|-----------------------|
| Conductor section                                   |  |                  |                            |                       |
| AWG/Kcmil                                           |  | max              |                            | 10                    |
| Flexible w/o lug conductor section                  |  |                  |                            |                       |
|                                                     |  | min              | mm <sup>2</sup>            | 1                     |
|                                                     |  | max              | mm <sup>2</sup>            | 6                     |
| Flexible c/w lug conductor section                  |  |                  |                            |                       |
|                                                     |  | min              | mm <sup>2</sup>            | 1                     |
|                                                     |  | max              | mm <sup>2</sup>            | 4                     |
| Flexible with insulated spade lug conductor section |  |                  |                            |                       |
|                                                     |  | min              | mm <sup>2</sup>            | 1                     |
|                                                     |  | max              | mm <sup>2</sup>            | 4                     |
| Power terminal protection according to IEC/EN 60529 |  |                  |                            | IP20 when wired       |
| Mechanical features                                 |  |                  |                            |                       |
| Operating position                                  |  | normal allowable |                            | Vertical plan ±30°    |
| Fixing                                              |  |                  |                            | Screw / DIN rail 35mm |
| Weight                                              |  |                  | g                          | 358                   |
| Conductor section                                   |  |                  |                            |                       |
| AWG/kcmil conductor section                         |  | max              |                            | 10                    |
| Operations                                          |  |                  |                            |                       |
| Mechanical life                                     |  |                  | cycles                     | 20000000              |
| Electrical life                                     |  |                  | cycles                     | 2000000               |
| Safety related data                                 |  |                  |                            |                       |
| Performance level B10d according to EN/ISO 13489-1  |  |                  |                            |                       |
|                                                     |  |                  | rated load mechanical load | cycles 2000000        |
|                                                     |  |                  |                            | cycles 20000000       |
| Mirror contats according to IEC/EN 609474-4-1       |  |                  |                            | YES                   |
| EMC compatibility                                   |  |                  |                            | yes                   |
| AC coil operating                                   |  |                  |                            |                       |
| Rated AC voltage at 60Hz                            |  |                  | V                          | 24                    |
| AC operating voltage                                |  |                  |                            |                       |
| of 60Hz coil powered at 60Hz                        |  |                  |                            |                       |
| pick-up                                             |  |                  |                            |                       |
|                                                     |  | min              | %Us                        | 80                    |
|                                                     |  | max              | %Us                        | 110                   |
| drop-out                                            |  |                  |                            |                       |
|                                                     |  | min              | %Us                        | 20                    |
|                                                     |  | max              | %Us                        | 55                    |
| AC average coil consumption at 20°C                 |  |                  |                            |                       |
| of 60Hz coil powered at 60Hz                        |  |                  |                            |                       |
|                                                     |  |                  | in-rush holding            | VA 75                 |
|                                                     |  |                  |                            | VA 9                  |
| Dissipation at holding ≤20°C 50Hz                   |  |                  | W                          | 2.5                   |
| Max cycles frequency                                |  |                  |                            |                       |
| Mechanical operation                                |  |                  |                            | cycles/h 3600         |
| Operating times                                     |  |                  |                            |                       |
| Average time for Us control                         |  |                  |                            |                       |
| in AC                                               |  |                  |                            |                       |
| Closing NO                                          |  |                  |                            |                       |

|            |     |    |    |
|------------|-----|----|----|
| Opening NO | min | ms | 8  |
|            | max | ms | 24 |
| Closing NC | min | ms | 10 |
|            | max | ms | 20 |
| Opening NC | min | ms | 14 |
|            | max | ms | 28 |
|            | min | ms | 7  |
|            | max | ms | 18 |

#### UL technical data

Full-load current (FLA) for three-phase AC motor

|         |   |     |
|---------|---|-----|
| at 480V | A | 7.6 |
| at 600V | A | 9   |

Yielded mechanical performance

for single-phase AC motor

|          |    |     |
|----------|----|-----|
| 110/120V | HP | 0.8 |
| 230V     | HP | 2   |

for three-phase AC motor

|          |    |     |
|----------|----|-----|
| 200/208V | HP | 3   |
| 220/230V | HP | 3   |
| 460/480V | HP | 5   |
| 575/600V | HP | 7.5 |

General USE

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 25 |
|------------|---|----|

#### Ambient conditions

Temperature

Operating temperature

|     |    |     |
|-----|----|-----|
| min | °C | -50 |
| max | °C | 70  |

Storage temperature

|     |    |     |
|-----|----|-----|
| min | °C | -60 |
| max | °C | 80  |

Max altitude

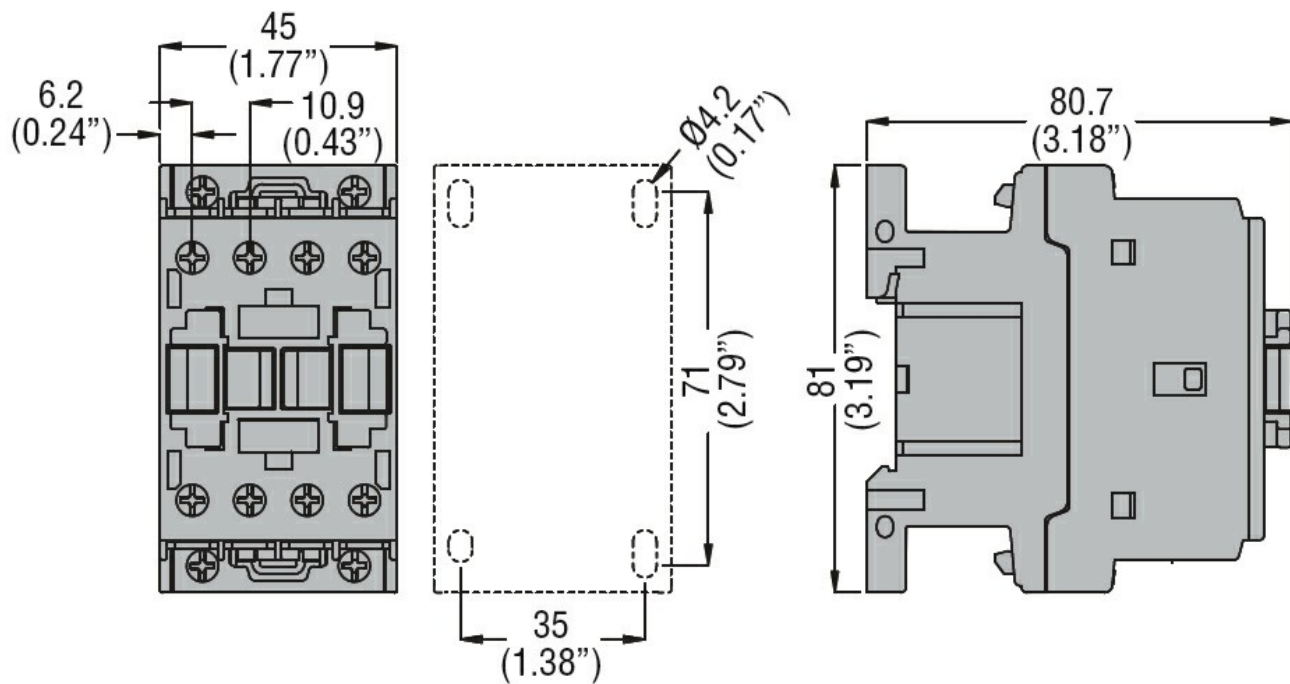
|   |      |
|---|------|
| m | 3000 |
|---|------|

#### Resistance & Protection

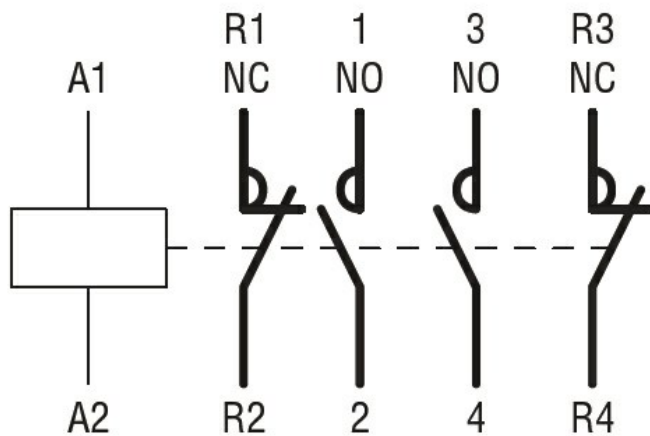
Pollution degree

3

#### Dimensions



#### Wiring diagrams



#### Certifications and compliance

##### Compliance

CSA C22.2 n° 60947-1  
CSA C22.2 n° 60947-4-1  
IEC/EN 60947-1  
IEC/EN 60947-4-1  
UL 60947-1  
UL 60947-4-1

##### Certificates

CCC  
cULus  
EAC

#### ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching